

THE CLAIMS

What is claimed is:

1. An apparatus comprising:
 - a processor core; and
 - a shared storage coupled to the processor core including a storage portion for a status corresponding to a data portion stored in the shared storage, the status including an indication of clean or dirty status, the data stored in the shared storage in an exclusive state.
2. The apparatus of Claim 1, the shared storage further including:
 - a presence portion corresponding to the data portion to hold a first presence encoding of the corresponding data portion when said data is stored in an exclusive state for said processor core.
3. The apparatus of Claim 1, further comprising
 - a shared storage control coupled to the shared storage to receive a first data request and to transmit the data portion in response to the first data request if the status includes an indication of a clean status and to transmit a second data request if the status includes an indication of a dirty status.
4. The apparatus of Claim 3 further comprising:
 - a second storage to receive the data portion from the shared storage; and

a third storage to transmit a second data portion in response to the second data request from the shared storage.

5. The apparatus of Claim 4 wherein the second storage and the third storage are private cache storage.
6. The apparatus of Claim 5 wherein the shared storage, the second storage and the third storage are on the same die.
7. The apparatus of Claim 5 wherein the second storage and the third storage are distributed storage.
8. A method comprising:

storing in a shared storage, status information indicative of whether a data portion is stored in an exclusive state including an indication of whether the data is either in a clean state or a dirty state while in the exclusive state.
9. The method of Claim 8 further comprising:

transmitting the data portion in response to a first data request if the corresponding data portion status is an indication of the clean state; and

transmitting a second data request if the corresponding data portion status is an indication of the exclusive dirty state.

10. The method of Claim 9 further comprising:

transmitting an invalidation request according to a presence encoding of the corresponding data portion if the first data request is of a first request type and if the data portion status is indicative of a valid state; and

setting the data portion status to indicate the dirty state if the first data request is of the first request type.

11. The method of Claim 10 further comprising:

setting the presence encoding to indicate an originator of the first data request if the first data request is of the first request type.

12. The method of Claim 10 wherein the first request type is a request to modify the requested data and the presence encoding is set to indicate only one originator.

13. A state machine executable encoding of the method of Claim 10 comprising one or more code storage medium having executable encodings stored thereon which, when executed by one or more state machines, causes the one or more state machines to perform the method of Claim 10.

14. A system comprising:

a first processor;

a second processor; and

a shared storage coupled to the first and second processors including a storage portion for a status corresponding to a data portion stored in the shared storage, the status including an indication of clean or dirty status when the data stored in the shared storage is in an exclusive state.

15. The system of Claim 14, further comprising

a shared storage control coupled to the shared storage to receive a first data request and to transmit the data portion in response to the first data request if the status includes an indication of a clean status and to transmit a second data request if the status includes an indication of a dirty status.

16. The system of Claim 15, the shared storage further including:

a presence portion corresponding to the data portion to hold a first presence encoding of the corresponding data portion when said data is stored in an exclusive state for said first or said second processor.

17. The apparatus of Claim 15 further comprising:

a first processor storage to receive the data portion from the shared storage; and

a second processor storage to transmit a second data portion in response to the second data request from the shared storage.

18. The apparatus of Claim 17 wherein the first processor storage and the second processor storage are private cache storage.
19. The system of Claim 17 wherein the shared storage, first processor storage and the second processor storage are on the same die.
20. The system of Claim 17 wherein the shared storage is distributed storage.